**GPS Toll Based Simulation Using Python**

**INTERNSHIP REPORT**

**Internship report**

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Date Of Submission:

**PROBLEM STATEMENT**

GPS Toll Based Simulation using Python

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**ABSTRACT**

This report presents the development and implementation of a gps-based toll system simulation using python. The primary objective of this project was to create a robust and efficient system that simulates the operations of a toll collection process based on gps data, integrating a web interface for user interaction and a database for data storage.

Our project utilized python for the core simulation tasks, leveraging the simpy library to model the toll collection process and manage the simulation events. The simulation aimed to replicate real-world scenarios, including vehicle detection, toll calculation based on distance traveled, and queue management at toll plazas.

To provide a user-friendly interface, we developed a website using html and css. This website allows users to interact with the simulation, view real-time data, and understand the workings of the gps toll system. The frontend was designed to be intuitive and responsive, ensuring a seamless user experience.

\*\*\*\*\*For the backend, we employed mongodb to manage and store the data generated during the simulation. This database choice was driven by mongodb's flexibility and scalability, which are crucial for handling large volumes of data typical in toll systems. The data stored includes vehicle entries and exits, toll amounts calculated, and time stamps of each transaction, which can be used for further analysis and reporting.\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

This report details the system architecture, the design and implementation process, and the results of our simulation. The findings demonstrate the feasibility and efficiency of using gps data for toll collection, highlighting the potential for real-world application and further development.

The project not only showcases the technical aspects but also emphasizes the integration of various technologies to solve a real-world problem.